

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference ACCEEZE-0304	<b>FOR FURTHER ACTION</b> <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. PCT/US04/43357	International filing date ( <i>day/month/year</i> ) 23 December 2004 (23.12.2004)	(Earliest) Priority Date ( <i>day/month/year</i> ) 23 December 2003 (23.12.2003)
Applicant PAXERA CORPORATION		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the Report**

a. With regard to the language, the international search was carried out on the basis of:



the international application in the language in which it was filed.



a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐

With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐

Certain claims were found unsearchable (See Box No. II)

3. ☐

Unity of invention is lacking (See Box No. III)

4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 3



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.

b. ☐

none of the figures is to be published with the abstract.

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### Box IV TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

The technical features mentioned in the abstract do not include a reference sign between parentheses (PCT Rule 8.1(d)).

#### NEW ABSTRACT

An optical tunable laser design (100) for the optical telecommunication industry is disclosed in this invention. This new design is economical, reliable, robust and with superior optical performances. The design offers broadband tunability, high output power, narrow laser line-width and high SMSR. And in addition, the tunable laser is distinguishable from conventional designs by the mere facts that there are no moving parts, therefore, making it very reliable, and the tuning method of this invention is non-thermal and non-mechanical making its tuning very fast in the sub-millisecond range. In the manufacturing front, it is low cost and easy to produce. It can be achieved with automation equipment like those used in the IC placement and PC assembly industry, therefore, the products as that disclosed in this invention can be provided with significantly reduced production costs and marketed with very competitive price. The side-mode-suppression ratio (SMSR) is further increased by implementing an etalon (128) having specific fineness to cooperate with the Acousto-optical tuning filter (AOTF) (120).

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International application No.

PCT/US04/43357

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G02F 1/11, 1/33; H01S 3/10, 3/117, 3/13, 3/00, 3/08,  
US CL : 359/285, 305, 308-314; 372/9, 13, 20, 22, 23, 28, 32, 38.01, 92, 98, 99, 102

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
U.S. : 359/285, 305, 308-314; 372/9, 13, 20, 22, 23, 28, 32, 38.01, 92, 98, 99, 102

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
East Database

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P ---	US 6,792,010 B2 (KOULIKOV et al) 14 September 2004 (14.09.2004), column 4, line 16 - column 5, line 26.	18, 20, 21 -----
A,P		1-17, 19, 22 and 24-31
Y, T	US 6,959,024 B2 (PALDUS et al) 25 October 2005 (25.10.2005), column 13, line 32 - column 14, line 62.	1-22 and 24-31

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

24 January 2006 (24.01.2006)

Date of mailing of the international search report

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Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Ricky Mack

Telephone No. (571) 272-2324